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(71) Applicants *(for all designated States except US)*: CONSUMER HEALTH ENTREPRENEURS B.V. [NL/NL]; Toernooiveld 100, NL-6525 EC Nijmegen (NL). DEVELOPMENT INNOVATION ADVICE B.V. [NL/NL]; Frederik Hendriklaan 6, NL-2012 SH Haarlem (NL).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: VENNEMANN, Lucas, Paulus, Joseph, Maria [NL/NL]; Frederik Hendriklaan 6, NL-2012 SH Haarlem (NL). SCHAAP, Cornelis, Wilhelmus, Henricus [NL/NL]; Wagnerlaan 22, NL-1411 JE Naarden (NL).

(74) Agent: PRINS, A., W.; Vereenigde, Nieuwe Parklaan 97, NL-2587 BN The Hague (NL).

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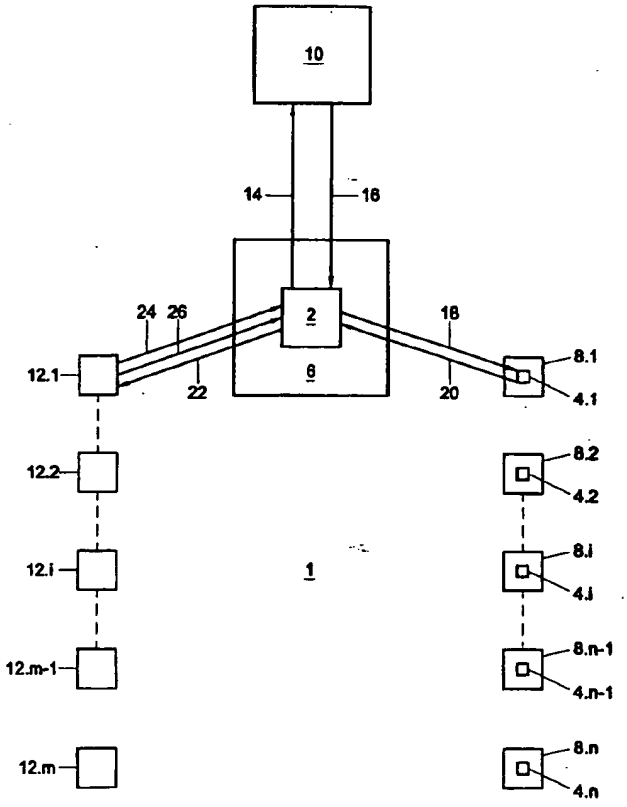
(54) Title: METHOD FOR COLLECTING AND SUPPLYING INFORMATION



(57) Abstract: The invention relates to a method for collecting and supplying information. Using computer means, the following method steps are carried out: a. using a predetermined search profile, information is collected from information sources such as database; b. the collected information is presented to at least one expert; c. the at least one expert reviews, selects and/or processes the present ed information on the basis of predetermined expert criteria to obtain structured information; d. the structured information is stored centrally in the computer means; e. at least a part of the centrally stored information is supplied to at least one information customer upon request of the information customer for information of a particular type, if this information is stored.

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Title: Method for collecting and supplying information

The invention relates to a method for collecting and supplying information.

Such a method is known per se. There are already many companies that collect data and include it in a database which can be consulted by third parties. A disadvantage of the known systems is that the stored information is often not tailored to the wishes of an "information customer" consulting a database. When consulting the database to obtain particular data, he is supplied with an unstructured, and often huge, amount of information. The information customer must then proceed to study, select and review the supplied information to obtain the information desired by him. Often, the desired information is only a fraction of the information supplied. It also happens that the supplied information does not include the desired information at all.

The object of the invention is to provide a solution to the above-mentioned disadvantages. In particular, the object of the invention is to provide a method for collecting and supplying information, whereby the information customers are constituted by a specific target group, which target group are intermediaries such as sellers and physicians.

The method according to the invention is accordingly characterized in that, using computer means, the following method steps are carried out:

a. using a predetermined search profile, information is collected from information sources such as databases;
b. the collected information is presented to at least one expert;
c. the at least one expert reviews, selects and/or processes the presented information on the basis of predetermined expert criteria to obtain structured information;
d. the structured information is stored centrally in the computer means;

e. at least a part of the centrally stored information is supplied to at least one information customer upon request of the information customer for information of a particular type, if this information is stored.

According to the invention, the experts constitute a filter which assesses the value of the information obtained from the information sources, such as databases of Elsevier, Medline, etc., selects and/or processes the information on the basis of the predetermined expert criteria. The experts therefore function as a filter to obtain structured information. A difference with the prior art is therefore that the experts ensure that the information customers do not need to study the supplied information anymore as has been described hereinbefore. In principle, the supplied information directly meets the demands and wishes of the information customer.

In particular, it holds that:

f. the at least one information customer communicates prior to method step e. what type of information is to be supplied, while partly on the basis thereof the at least one search profile is composed.

What is accomplished in this way is that the supplied information is optimally tailored to the wishes of the information customer.

In particular, it further holds that:

h. the predetermined expert criteria are partly determined on the basis of the type of information priorly communicated by the at least one information customer.

With this feature it is further accomplished that the supplied information is optimally tailored to the wishes of the information customer.

More in particular, it holds that:

i. the at least one information customer communicates to what extent the information supplied to him meets his wishes, while on the basis thereof optionally the search profile and/or the expert criteria are adjusted and/or at least one other expert is engaged.

Thus, a self-learning system has been created, whereby the information supplied is continuously accommodated to the wishes of the information customer.

It is also possible that in carrying out step e, the information customer communicates what type of information he wishes to receive, whereafter the required information is supplied if it is centrally stored. Accordingly, the information customer here asks for a particular kind of information, which type of information may then optionally be different information than the type of information which he has indicated in the method step f. The information involved may be information which the information customer wishes to receive incidentally.

In particular, it holds furthermore that:

j. it is monitored to what extent the information requested by the at least one information customer from the centrally stored information corresponds with the type of information of interest to the information customer as priorly communicated by him.

If it appears that the information customer requests information that differs from the information he indicated in carrying out method step f., this discrepancy can be established. On the basis thereof, optionally the following method step can be carried out. In this next method step, it holds that:

k. in case of discrepancies between the required information and the priorly communicated type of information, this discrepancy is communicated to the at least one information customer, whereafter the at least one information customer can optionally beforehand communicate that he wishes to adjust his type of information of interest to him and whereafter optionally the search profile and/or the expert criteria is/are adjusted and/or optionally another experts is engaged for the information collected on the basis of the search profile in question.

Preferably, it further holds that:

l. on the basis of information from the at least one expert, the at least one search profile is adjusted.

In this way, use is also made of the experiences of the experts in carrying out the method step c. If, for instance, the expert finds that a large part of the supplied information does not meet the expert criteria, for instance because this information has nothing to do with the kind of information for which the expert has been engaged, the profile can be adjusted on the basis of this experience, the aim being for a greater percentage of the supplied information to fall within the expert criteria.

The invention will presently be further elucidated on the basis of the drawing. In the drawing:

Fig. 1 shows a system for carrying out a method according to the invention.

In Fig. 1 reference numeral 1 designates a system for carrying out a method according to the invention. The system 1 is provided with computer means 2, 4.i (i= 1, 2, ..i, ..n-1,n) by means of which a number of method steps are carried out. In this example, the computer means consist of a centrally arranged computer 2, which is managed by a company 6, which is schematically shown in the figure. .Further, the computer means comprise a number of individual computers 4.i (i= 1, 2, ..i, ..n-1,n) which are respectively managed by experts 8.i (i= 1, 2, ..i, ..n-1,n). The experts 8.i each consist of a person or group of persons who are experts in a particular field, that is, experts with regard to a particular type of information. Further, the system comprises information sources 10, such as databases of Elsevier, Medline, etc., which are designated schematically in the figure. In the figure, further, a number of information customers 12.i (i= 1, 2, ..i, ..m-1,m) are indicated.

The operation of the system of carrying out the method according to the invention works is as follows. The company 6, using a predetermined search profile, collects information from the information sources 10 (step a).

In this example, using the central computer 2, the search profile is fed via a connection 14 to the information sources 10. In the case of databases, the connection 14 can consist of an online connection, internet connection or the like. The collected information is supplied from the information sources 10 via a connection 16 to the company 6 and in this example stored in the central computer 2. Next (step b), the information which has been collected with the aid of the predetermined search profile is sent to at least one expert 8.i who is related to the search profile in question. In other words, the expert is expected to be knowledgeable about the information found with the aid of the search profile. In this example, the collected information is presented to the expert 8.1. Presenting the collected information in this example proceeds via a connection 18 between the central computer 2 and the individual computer 4.1 of the expert 8.1.

The expert 8.1 reviews, selects and/or processes the information presented via the connection 18 on the basis of predetermined expert criteria in order to obtain structured information (step c). The expert therefore utilizes predetermined criteria to assess whether the collected information, or any part thereof, is correct. If only parts of the information meet the expert criteria, such parts are selected and optionally processed. 'Processing' may herein be understood to include *inter alia* summarizing in a standard format the relevant information presented to the expert. In fact, the expert here functions as a filter, which processes the often huge amount of collected information, in order to render it more suitable to be supplied to information customers. The structured information thus generated by the experts is stored in the individual computer 4.1 and subsequently supplied via a connection 20 to the central computer 2 (step d). The structured information is stored centrally in the central computer 2 together with information previously stored in the computer means, which information has optionally been obtained by way of other search profiles and with the aid of other experts (step d).

Next, at least a part of the centrally stored information is supplied to information customer 12.i upon request of the information customer for information of a particular type (step e), if this type of information is centrally stored. In this example, the information customer 12.i has asked for information of a particular type and this information - if centrally stored - is supplied via a connection 22 to the information customer 12.1. This connection 22 can again consist of a modem or internet connection if the information customer 12.1 is provided with a computer to which this information can be fed. It is also possible, however, that the connection 22 consists of a written report of computer printouts which are generated with the aid of the central computer 2 and which are supplied to the information customer 12.1.

Naturally, it needs to be known which information is to be supplied at the request of the information customer. In particular, this can be realized in that, in this example, for instance, the information customer 12.1 has already communicated beforehand what type of information is to be supplied (step f). The information customer 12.1 can communicate this, for instance, via a connection 24 with the central computer 2. This connection can again consist of a connection between a computer of the information customer 12.1 and the central computer 2. It is also possible, however, that the information customer fills out a standard form, the connection 24 then representing the transmission of the standard form to the company 6. This standard form can be scanned and be inputted at the central computer 2. Partly on the basis of the type of information of interest to the information customer as priorly communicated by him, the search profile in question is composed (step f). Composing the search profile can be carried out by the computer 2 using an algorithm. It is also possible, however, that the search profile is composed manually by the company X. A combination of manually and automatically composing search profiles is also possible. When the search profile in question has been generated, it is supplied via line 14 to

the information sources 10 for collecting information as described hereinbefore. Because it is presently known what type of information customer 12.1 is interested in, the structured information in question can thus be presented to the information customer 12.1 via connection 22. The procedure can then be designed such that at the request of the information customer the information supplied via connection 22 is supplied automatically (step g). In particular, supply to the information customer 12.1 in this example takes place automatically when the centrally stored information has been supplemented with new information of the predetermined type.

The expert criteria by which the information collected on the basis of a predetermined search profile is reviewed by the expert are partly determined in this example on the basis of the type of information priorly communicated by the at least one information customer 12.1 (step h). These expert criteria can again be determined with the aid of an algorithm by the central computer 2. It is also possible, however, that the company 6 determines the expert criteria manually. A combination of manual determination and determination through an algorithm is also possible.

In use, it is further possible that the information customer 12.1 communicates to what extent the information supplied to him meets his wishes. He can again communicate this via the connection 24 to the company 6 and, in this example, to the central computer 2. When it appears that results are not satisfactory, the company 6 can proceed, using the computer 2, to adjust the search profile and/or the associated expert criteria. It is also possible that the company 6 decides to engage another expert 8.i for reviewing, processing and selecting the collected information. This can be, for instance, an expert who is a better expert in the field of the collected information in question (step i).

It is also possible, however, that the information customer 12.1, when executing step e., communicates via a connection 26 what type of

information he wishes to receive. In that case, he requires a particular type of information and is directly supplied with this information if this information is centrally stored. The type of information that he requires may then differ from the type of information which he priorly communicated as being of interest to him via connection 24. This can involve an incidental request for a specific type of information which the information customer 12.1 had not anticipated would be of interest to him. In principle, this could mean there is no search profile available by means of which the information sources 10 have been queried. It could also mean that the information sources 10 *have* been queried by means of a search profile which exhibits at least partial overlap with the type of information incidentally requested by the information customer 12.1. This can happen, for instance, when another information customer has communicated that he is interested in a similar type of information.

Also, the system may be so designed that the information customer, in this example the information customer 12.1, must in each instance communicate what type of information is of interest to him (step j). In that case, however, he has priorly communicated what type of information he is interested in, for the purpose of composing a search profile. In the latter case, it can be monitored with the computer 2 to what extent information requested by the at least one information customer from the centrally stored information agrees with the type of information which this information customer has priorly communicated he is interested in. In case of discrepancies between the required information and the communicated type of information of interest to him, such discrepancies are communicated to the at least one information customer 12.1, for instance via the connection 22. In response, the at least one information customer 12.1 can communicate that he wishes to adjust the type of information which he is interested in and for which the search profile was originally composed. The

expert criteria and the choice of the expert can optionally be adjusted accordingly (step k).

Naturally, it is also possible that the expert comes to the conclusion that the collected information for the greater part does not meet the expert criteria. In other words, for the greater part, the collected information is not of the kind to be reviewed by the expert. The expert can communicate this to the company 6, for instance via the connection 20, optionally automatically with the aid of central computer 2, which adjusts the search profile in question (step l). Thus a self-learning system has been obtained. The company 6 receives a financial remuneration from information customer 12.1 for carrying out its activities (in particular the method steps a, b, d, and e). The expert 8.1 in turn receives a financial remuneration from the company 6 for processing the collected information to obtain the structured information.

In this example, the operation of the system has been described in relation to one information customer 12.1 and one expert 8.1. Naturally, entirely by analogy, other information customers 12.i can be supplied with information which has been collected with the same search profile and/or optionally other search profiles and which has been processed by the same expert 8.1 and optionally by other experts 8.i on the basis of the same expert criteria and/or optionally other expert criteria to obtain the structured information.

Other variants are possible with a consumer information customer. In that case, the steps are as follows: for setting up the system, a consumer panel is queried. Thereafter the development of the consumer information demand can be monitored in two ways: personally (for instance: after a personal identification has taken place) or on the basis of a specific search profile. The latter variant is like this: on the basis of a consumer query sequence, the query steps from a decision tree are followed. The steering of the supplied information and the format in which the information is

presented are tailored accordingly. In principle, for this purpose, the same technique can be used as for the target group "intermediaries".

The invention is not limited in any way to the embodiment outlined hereinbefore. Thus, the connections 14, 16, 18, 20, 22, 24 and 26 can also consist in exchanges of letters. Thus, with the aid of the central computer 2, the company 6 can, for instance, generate a letter which is supplied to the owner of an information source 10. The owner of this information source collects this information and via the connection 16 sends it, in writing, back to the company 6, which inputs the obtained information in the central computer 2. Entirely analogously, the information exchange via the connections 18, 20, 22, 26 en 24 can take place in writing. Such variants are each understood to fall within the framework of the invention.

It is furthermore possible for the company 6 to assess the value of the review of the experts by having experts review each other, by measuring the satisfaction of the information customers (through complaints or wishes to change the type of required information) and by measuring a score upon inquiry. The company X thus controls the quality of the expert review.

In the following, briefly, an example of a case will be given. The present case involves aspirin. The company X selects, with experts in the field of aspirin (gastroenterologists, physicians, pharmacists, sometimes consumers), search profiles for collecting information which customers are interested in. Further, the company X develops a checklist for the kind of information desired by the information customers based on their wishes. This checklist can be, for instance: every time when I select aspirin, I wish to obtain only clinically relevant warnings about aspirin use. This checklist constitutes a so-called expert criterion. The company X proceeds to translate the search profiles into periodic queries for the information sources. Further, all this is translated into the search criteria mentioned, that is, the checklists for the experts. Company X provides a screen layout in which the experts are queried via the computer and relays the information obtained to

the reviewing experts. If necessary, company X provides additional information if the experts so wish. Company X receives the review from the experts and thus obtains structured information and processes it into messages relevant for the information customer. This message can read, for instance: "do not combine aspirin with 2 glasses of alcohol. Source: BMJ 5/5/99, p. 409", or: "in the event of nightly headache accompanied by shooting pains, you can use aspirin for a week, but then you must go to the internist. Source: BMJ 5/6/90, p. 1180". The company X subsequently tests the value of the review of the experts by having experts review each other, by measuring customer satisfaction and by inquiring with the customers as described hereinbefore. Thus company X controls the quality of the expert review.

CLAIMS

1. A method for collecting and supplying information, characterized in that, using computer means, the following method steps are carried out:

a. using a predetermined search profile, information is collected from information sources such as databases;

b. the collected information is presented to at least one expert;

c. the at least one expert reviews, selects and/or processes the presented information on the basis of predetermined expert criteria to obtain structured information;

d. the structured information is stored centrally in the computer means;

e. at least a part of the centrally stored information is supplied to at least one information customer upon request of the information customer for information of a particular type, if this information is stored.

2. A method according to claim 1, characterized in that:

f. the at least one information customer communicates prior to the method step e. what type of information is to be supplied, while partly on the basis thereof the at least one search profile is composed.

3. A method according to claim 2, characterized in that:

g. the supplied information, at the request of the information customer, is supplied automatically.

4. A method according to claims 2 and 3, characterized in that: the supplied information is automatically supplied to the at least one information customer when the centrally stored information has been supplemented with new information of the predetermined type.

5. A method according to any one of the preceding claims 2-4, characterized in that:

h. the predetermined expert criteria are partly determined on the basis of the type of information priorly communicated by the at least one information customer.

6. A method according to any one of the preceding claims 2-5, characterized in that:

i. the at least one information customer communicates to what extent the information supplied to him meets his wishes, while on the basis thereof optionally the search profile and/or the expert criteria is/are adjusted and/or at least one other expert is engaged.

7. A method according to any one of the preceding claims, characterized in that in carrying out step e. the information customer communicates which type of information he wishes to receive, whereafter the required information is supplied if it is centrally stored.

8. A method according to any one of the preceding claims 2-6 and according to claim 7, characterized in that:

j. it is monitored to what extent the information required by the at least one information customer from the centrally stored information corresponds with the type of information of interest to the information customer as priorly communicated by him.

9. A method according to claim 8, characterized in that:

k. in case of discrepancies between the required information and the priorly communicated type of information, such discrepancy is communicated to the at least one information customer, whereafter the at least one information customer can optionally communicate that he wishes to adjust the priorly communicated type of information of interest to him and whereafter optionally the search profile and/or the expert criteria is/are adjusted and/or optionally another expert is engaged for the information collected on the basis of the respective search profile.

10. A method according to any one of the preceding claims, characterized in that:

l. on the basis of information from the at least one expert, the at least one search profile is adjusted.

11. A method according to any one of the preceding claims, characterized

in that the computer means comprise a central computer for carrying out at least one of the method steps a, b, d, e.

12. A method according to claim 3 or 4 and according to claim 11, characterized in that the central computer is also used for carrying out the method step g.

13. A method according to claim 8 and according to claim 11 or 12, characterized in that the central computer is also used for carrying out the method step j.

14. A method according to any one of the preceding claims, characterized in that the computer means further comprise a computer which is used by the expert for carrying out method step c.

15. A method according to any one of the preceding claims, characterized in that the method steps a, b, d and e are carried out by a company, while the information customer pays the company a financial remuneration for the information supplied.

16. A method according to claim 15, characterized in that the company pays the expert a financial remuneration.

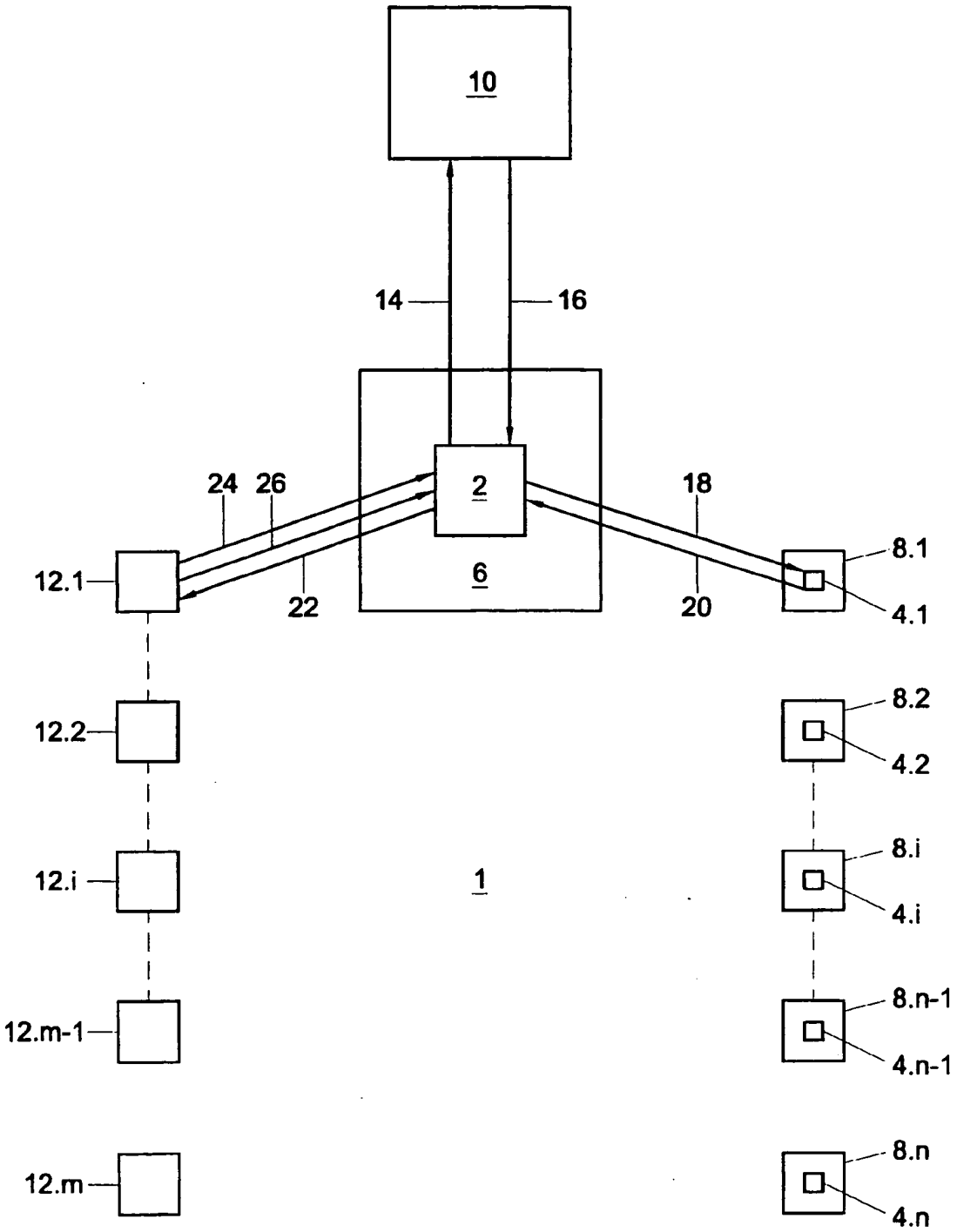
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Fig. 1

INTERNATIONAL SEARCH REPORT

International Application No
PCT/NL 00/00966

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G06F17/30

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, WPI Data, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DAVIES N J ET AL: "KNOWLEDGE SHARING AGENTS OVER THE WORLD WIDE WEB" BT TECHNOLOGY JOURNAL,GB,BT LABORATORIES, vol. 16, no. 3, 1 July 1998 (1998-07-01), pages 104-109, XP000781604 ISSN: 1358-3948 abstract page 105, column 1, line 21 -page 105, column 2, line 14	1
A	WO 96 23265 A (BRITISH TELECOMM ;DAVIES NICHOLAS JOHN (GB); WEEKS RICHARD (GB)) 1 August 1996 (1996-08-01) abstract page 1, line 1 -page 3, line 31	1

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

° Special categories of cited documents :

'A' document defining the general state of the art which is not considered to be of particular relevance

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'&' document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
12 June 2001	19/06/2001

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax (+31-70) 340-3016	Katerbau, R

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INTERNATIONAL SEARCH REPORT

Inform. .n on patent family members

International ·lication No
PCT/NL 00/00966

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